WHAT IS CLAIMED IS:

1. An endoscope, which comprises:

an intracorporeal portions, configured for insertion into a body, and including:

a nonirradiative electromagnetic sensor for tissue characterization;

a communication line, on which the nonirradiative electromagnetic sensor is mounted; and

an extracorporeal portion.

2. The endoscope of claim 1, wherein the communication line is formed as an instrument bundle.

3. The endoscope of claim 2, wherein the instrument bundle extends beyond a distal-most end of the endoscope, with respect to an operator, and a distal-most end of the instrument bundle may be manipulated, extracorporeally, to bring the nonirradiative electromagnetic sensor to contact with a tissue, for characterization.

4. The endoscope of claim 1, wherein the intracorporeal portion further includes an instrument channel, and wherein the nonirradiative electromagnetic sensor for tissue characterization is inserted into the instrument channel.

5. The endoscope of claim 4, wherein the nonirradiative electromagnetic sensor for tissue characterization may be removed from the instrument channel and replaced with another instrument.

6. The endoscope of claim 4, and further including a catheter, wherein the nonirradiative electromagnetic sensor is inserted into the catheter, and the catheter is inserted into the instrument channel.

7. The endoscope of claim 6, wherein the catheter extends beyond a distal-most end of the endoscope, with respect to an operator, and a distal-most end of the catheter may be manipulated independently of the distal-most end of the endoscope.

8. The endoscope of claim 1, wherein the intracorporeal portion further includes an optical channel for an optical instrument.

9. The endoscope of claim 1, wherein the optical instrument is configured to observe the nonirradiative electromagnetic sensor.

10. The endoscope of claim 1, wherein the intracorporeal portion further includes a second instrument.

11. The endoscope of claim 10, wherein the second instrument is selected from the group consisting of an optical sensor, an X-ray sensor, an RF sensor, a MW sensor, an infrared thermography sensor, or an ultrasound sensor, an MR sensor, an impedance sensor, a temperature sensor, a biosensor, a chemical sensor, a radioactive-emission sensor, and a mechanical sensor.

12. The method of claim 10, wherein the second instrument is configured to sense the nonirradiative electromagnetic sensor.

13. The endoscope of claim 1, wherein the intracorporeal portion is designed for motion in a body lumen.

14. The endoscope of claim 13, wherein the intracorporeal portion is designed for reaching the lumen by percutaneous insertion.

15. The endoscope of claim 13, configured for characterizing a tissue along the lumen wall.

16. The endoscope of claim 13, configured for characterizing a tissue outside the lumen, by penetrating the lumen wall.

17. The endoscope of any one of claims 13 - 16, wherein the body lumen is selected from the group consisting of an oral cavity, a nostril, an esophagus, a

gastrointestinal tract, a rectum, a colon, bronchi, a vagina, a cervix, a urinary tract, a bladder, a uterus, and blood vessels.

18. The endoscope of claim 1, wherein the intracorporeal portion is designed for insertion through a trocar valve.

19. The endoscope of claim 1, wherein tissue characterization relates to the detection of a malignancy.

20. The endoscope of claim 1, wherein tissue characterization relates to the detection of a pre-cancerous state.

21. A method of tissue characterization, which comprises:

inserting a nonirradiative electromagnetic sensor intracorporeally; and

characterizing an intracoroporeal tissue.

22. The method of claim 21, wherein the nonirradiative electromagnetic sensor is mounted on an instrument bundle.

23. The method of claim 22, and further including manipulating a distal-most end of the instrument bundle, extracorporeally, to bring the nonirradiative electromagnetic sensor to contact with a tissue, for characterization.

24. The method of claim 21, wherein the nonirradiative electromagnetic sensor for tissue characterization moves within an instrument channel.

25. The method of claim 24, and further including:

after the characterizing the intracoroporeal tissue, removing the nonirradiative electromagnetic sensor for tissue characterization from the instrument channel;

inserting a second instrument to the instrument channel; and

performing a second procedure with the second instrument.

26. The method of claim 25, wherein the second procedure includes taking a biopsy sample.

27. The method of claim 25, wherein the second procedure includes a localized surgery.

28. The method of claim 25, wherein the second procedure includes dispensing medication.

29. The method of claim 25, wherein the second procedure includes characterizing the tissue by an additional sensor.

30. The method of claim 24, wherein the nonirradiative electromagnetic sensor for tissue characterization moves within a catheter, inserted into the instrument channel.

31. The method of claim 30, and further including manipulating a distal-most end of the catheter, extracorporeally, to bring the nonirradiative electromagnetic sensor to contact with a tissue, for characterization.

32. The method of claim 21, and further including inserting an optical instrument to visually observe the nonirradiative electromagnetic sensor as it makes contact with a tissue.

33. The method of claim 21, and further including inserting a second instrument for characterizing the tissue by a second modality, together with the nonirradiative electromagnetic sensor.

34. The method of claim 33, wherein the second instrument is selected from the group consisting of an optical sensor, an X-ray sensor, an RF sensor, a MW sensor, an infrared thermography sensor, or an ultrasound sensor, an MR sensor, an impedance sensor, a temperature sensor, a biosensor, a chemical sensor, a radioactive-emission sensor, and a mechanical sensor.

35. The method of claim 33, wherein the second instrument is configured to sense the nonirradiative electromagnetic sensor.

36. The method of claim 21, wherein the inserting includes:
inserting to a body lumen from a body orifice; and
characterizing a tissue along the body lumen.

37. The method of claim 21, wherein the inserting includes:
inserting to a body lumen from a body orifice;
penetrating the body lumen; and
characterizing a tissue beyond the body lumen.

38. The method of claim 21, wherein the inserting includes:
percutaneously inserting;
reaching a body lumen;
moving along the body lumen; and
characterizing a tissue along the body lumen.

39. The method of claim 21, wherein the inserting includes:
percutaneously inserting;
reaching a body lumen;
moving along the body lumen;
penetrating the body lumen; and
characterizing a tissue beyond the body lumen.

40. The method of any one of claims 36 - 39, wherein the body lumen is selected from the group consisting of an oral cavity, a nostril, an esophagus, a gastrointestinal tract, a rectum, a colon, bronchi, a vagina, a cervix, a urinary tract, a bladder, a uterus, and blood vessels.

41. The method of claim 21, wherein inserting includes inserting through a trocar valve.

42. The method of claim 21, wherein tissue characterization relates to the detection of a malignancy.

43. The method of claim 21, wherein tissue characterization relates to the detection of a pre-cancerous state.

44. An in-vivo method, comprising:

providing an endoscope, having an instrument channel;

inserting a sensor for tissue characterization, mounted on communication line, into the instrument channel;

characterizing a tissue;

removing the sensor for tissue characterization;

inserting a second instrument into the instrument channel, to the location of the characterized tissue; and

performing a second procedure with the second instrument.

45. The method of claim 44, wherein the sensor for tissue characterization is a nonirradiative electromagnetic sensor.

46. The method of claim 44, wherein the sensor for tissue characterization is selected from the group consisting of an optical sensor, an x-ray sensor, an RF sensor, a MW sensor, an infrared thermography sensor, or an ultrasound sensor, an MR sensor, an impedance sensor, a temperature sensor, a biosensor, a chemical sensor, a radioactive-emission sensor, and a mechanical sensor.

47. The method of claim 44, wherein the second procedure includes taking a biopsy sample.

48. The method of claim 44, wherein the second procedure includes a localized surgery.

49. The method of claim 44, wherein the second procedure includes dispensing medication.

50. The method of claim 44, wherein the second procedure includes characterizing the tissue with an additional sensor.

51. An in-vivo method, comprising:

providing an endoscope, having an instrument channel;

inserting a sensor for tissue characterization, mounted on a communication line, into the instrument channel;

extending the sensor, mounted on the communication line, to beyond the reach of the instrument channel;

characterizing a tissue;

inserting a guide wire to the location of the characterized tissue;

removing the sensor for tissue characterization;

inserting a second instrument into the instrument channel, along the guide wire, to the location of the characterized tissue; and

performing a second procedure with the second instrument.

52. The method of claim 51, wherein the sensor for tissue characterization is a nonirradiative electromagnetic sensor.

53. The method of claim 51, wherein the sensor for tissue characterization is selected from the group consisting of an optical sensor, an x-ray sensor, an RF sensor, a MW sensor, an infrared thermography sensor, or an ultrasound sensor, an MR sensor, an impedance sensor, a temperature sensor, a biosensor, a chemical sensor, a radioactive-emission sensor, and a mechanical sensor.

54. The method of claim 51, wherein the communication line further includes an instrument bundle.

55. The method of claim 51, wherein the second procedure includes taking a biopsy sample.

56. The method of claim 51, wherein the second procedure includes a localized surgery.

57. The method of claim 51, wherein the second procedure includes dispensing medication.

58. The method of claim 51, wherein the second procedure includes characterizing the tissue with an additional sensor.

59. A method for tissue characterization, comprising:

inserting a guide wire intracorporeally;

inserting a sensor for tissue characterization, mounted on a communication line, intracorporeally, along the guide wire; and

characterizing the tissue with the sensor.

60. The method of claim 59, wherein the sensor for tissue characterization is a nonirradiative electromagnetic sensor.

61. The method of claim 59, wherein the sensor for tissue characterization is selected from the group consisting of an optical sensor, an X-ray sensor, an RF sensor, a MW sensor, an infrared thermography sensor, or an ultrasound sensor, an MR sensor, an impedance sensor, a temperature sensor, a biosensor, a chemical sensor, a radioactive-emission sensor, and a mechanical sensor.

62. The method of claim 60, wherein the communication line includes an instrument bundle.

63. The method of claim 59, and further including:

removing the sensor for tissue characterization after the characterizing the tissue;

inserting a second instrument, mounted on a second communication line, intracorporeally, along the guide wire.

64. The method of claim 63, wherein the second instrument is a biopsy instrument.

65. The method of claim 63, wherein the second instrument is configured for a localized surgery.

66. The method of claim 63, wherein the second instrument is configured for dispensing medication.

67. The method of claim 63, wherein the second instrument is a sensor, selected from the group consisting of an optical sensor, an X-ray sensor, an RF sensor, a MW sensor, an infrared thermography sensor, or an ultrasound sensor, an MR sensor, an impedance sensor, a temperature sensor, a biosensor, a chemical sensor, a radioactive-emission sensor, and a mechanical sensor.

68. The method of claim 63, wherein the second communication line includes an instrument bundle.

69. An endoscope system, which comprises:

an intracorporeal portions, configured for insertion into a body, and including:

a nonirradiative electromagnetic sensor for tissue characterization;

a communication line, on which the nonirradiative electromagnetic sensor is mounted; and

an extracorporeal portion;

a control unit; and

a signal analyzer.